

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		ATTORNEY'S DOCKET NUMBER <b>101.0122/US/PCT</b> U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>107554116</b>
INTERNATIONAL APPLICATION NO. <b>PCT/GB2004/001355</b>	INTERNATIONAL FILING DATE <b>31st March 2005</b>	PRIORITY DATE CLAIMED <b>24th April 2003</b>
TITLE OF INVENTION <b>DISTRIBUTED OPTICAL FIBRE MEASUREMENTS</b>		
APPLICANT(S) FOR DO/EO/US <b>Arthur H. Hartog et al.</b>		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<p>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371.</p> <p>3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</p> <p>4. <input checked="" type="checkbox"/> The US has been elected (Article 31).</p> <p>5. <input type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))           <ul style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> has been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ul> </p> <p>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).           <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto.</li> <li>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</li> </ul> </p> <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))           <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> have been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ul> </p> <p>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p>		
Items 11 to 20 below concern document(s) or information included:		
<p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input type="checkbox"/> A preliminary amendment.</p> <p>14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.</p> <p>15. <input type="checkbox"/> A substitute specification.</p> <p>16. <input checked="" type="checkbox"/> A power of attorney and/or change of address letter.</p> <p>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13/er.2 and 37 CFR 1.821- 1.825.</p> <p>18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</p> <p>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</p>		

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.			ATTORNEY'S DOCKET NUMBER																																																																																																																																					
10/554116	PCT/GB2004/001355			101.0122/US/PCT																																																																																																																																					
20. Other items or information:  <i>Postcard</i>																																																																																																																																									
<table border="1"> <tr> <td colspan="3">The following fees have been submitted</td> <td colspan="2">CALCULATIONS</td> <td>PTO USE ONLY</td> </tr> <tr> <td colspan="3">21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....</td> <td colspan="2">\$ 300.00</td> <td></td> </tr> <tr> <td colspan="3">22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c))  If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 All other situations..... \$200</td> <td colspan="2">\$ 200.00</td> <td></td> </tr> <tr> <td colspan="3">23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB..... \$400 All other situations..... \$500</td> <td colspan="2">\$ 400.00</td> <td></td> </tr> <tr> <td colspan="3"><b>TOTAL OF 21, 22 and 23 =</b></td> <td colspan="2">900.00</td> <td></td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.</td> <td colspan="3"></td> </tr> <tr> <td>Total Sheets</td> <td>Extra Sheets</td> <td>Number of each additional 50 or fraction thereof (round up to a whole number)</td> <td colspan="3">RATE</td> </tr> <tr> <td>- 100 =</td> <td>/50 =</td> <td></td> <td colspan="3">x \$250</td> </tr> <tr> <td colspan="3">Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).</td> <td colspan="2">\$ 130.00</td> <td></td> </tr> <tr> <td>CLAIMS</td> <td>NUMBER FILED</td> <td>NUMBER EXTRA</td> <td colspan="3">RATE</td> </tr> <tr> <td>Total claims</td> <td>35</td> <td>- 20 = 15</td> <td colspan="3">x \$ 50 \$ 750.00</td> </tr> <tr> <td>Independent claims</td> <td>4</td> <td>- 3 = 1</td> <td colspan="3">x \$200 \$ 200.00</td> </tr> <tr> <td colspan="3">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td colspan="3">+ \$360 \$</td> </tr> <tr> <td colspan="3"><b>TOTAL OF ABOVE CALCULATIONS =</b></td> <td colspan="3">\$</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.</td> <td colspan="3"></td> </tr> <tr> <td colspan="3"></td> <td colspan="3"><b>SUBTOTAL =</b> \$ 1,980.00</td> </tr> <tr> <td colspan="3">Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).</td> <td colspan="3">+ \$</td> </tr> <tr> <td colspan="3"></td> <td colspan="3"><b>TOTAL NATIONAL FEE =</b> \$</td> </tr> <tr> <td colspan="3">Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property</td> <td colspan="3">+ \$ 40.00</td> </tr> <tr> <td colspan="3"></td> <td colspan="3"><b>TOTAL FEES ENCLOSED =</b> \$2020.00</td> </tr> <tr> <td colspan="3"></td> <td colspan="2">Amount to be refunded:</td> <td>\$</td> </tr> <tr> <td colspan="3"></td> <td colspan="2">Amount to be charged</td> <td>\$2,020.00</td> </tr> </table>						The following fees have been submitted			CALCULATIONS		PTO USE ONLY	21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....			\$ 300.00			22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c))  If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 All other situations..... \$200			\$ 200.00			23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB..... \$400 All other situations..... \$500			\$ 400.00			<b>TOTAL OF 21, 22 and 23 =</b>			900.00			<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.						Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE			- 100 =	/50 =		x \$250			Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).			\$ 130.00			CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE			Total claims	35	- 20 = 15	x \$ 50 \$ 750.00			Independent claims	4	- 3 = 1	x \$200 \$ 200.00			MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360 \$			<b>TOTAL OF ABOVE CALCULATIONS =</b>			\$			<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.									<b>SUBTOTAL =</b> \$ 1,980.00			Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).			+ \$						<b>TOTAL NATIONAL FEE =</b> \$			Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property			+ \$ 40.00						<b>TOTAL FEES ENCLOSED =</b> \$2020.00						Amount to be refunded:		\$				Amount to be charged		\$2,020.00
The following fees have been submitted			CALCULATIONS		PTO USE ONLY																																																																																																																																				
21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....			\$ 300.00																																																																																																																																						
22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c))  If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 All other situations..... \$200			\$ 200.00																																																																																																																																						
23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB..... \$400 All other situations..... \$500			\$ 400.00																																																																																																																																						
<b>TOTAL OF 21, 22 and 23 =</b>			900.00																																																																																																																																						
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.																																																																																																																																									
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE																																																																																																																																						
- 100 =	/50 =		x \$250																																																																																																																																						
Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).			\$ 130.00																																																																																																																																						
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE																																																																																																																																						
Total claims	35	- 20 = 15	x \$ 50 \$ 750.00																																																																																																																																						
Independent claims	4	- 3 = 1	x \$200 \$ 200.00																																																																																																																																						
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360 \$																																																																																																																																						
<b>TOTAL OF ABOVE CALCULATIONS =</b>			\$																																																																																																																																						
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.																																																																																																																																									
			<b>SUBTOTAL =</b> \$ 1,980.00																																																																																																																																						
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).			+ \$																																																																																																																																						
			<b>TOTAL NATIONAL FEE =</b> \$																																																																																																																																						
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property			+ \$ 40.00																																																																																																																																						
			<b>TOTAL FEES ENCLOSED =</b> \$2020.00																																																																																																																																						
			Amount to be refunded:		\$																																																																																																																																				
			Amount to be charged		\$2,020.00																																																																																																																																				

10/554116

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO-1390 (Rev. 07-2005)

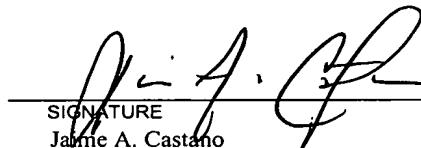
Approved for use through 3/31/2007. OMB 0651-0021  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

- a.  A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.
- b.  Please charge my Deposit Account No. 502475 in the amount of \$ 2020.00 to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c.  The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 502475. A duplicate copy of this sheet is enclosed.
- d.  Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

**NOTE:** Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

## SEND ALL CORRESPONDENCE TO:

Jaime Castano  
Intellectual Property Counsel  
Schlumberger Reservoir Completions  
14910 Airline Road  
Rosharon, Texas 77583  
United States of America

  
 \_\_\_\_\_  
 SIGNATURE  
 Jaime A. Castano  
 \_\_\_\_\_  
 NAME  
 41,660  
 \_\_\_\_\_  
 REGISTRATION NUMBER

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Arthur H. Hartog Attorney Docket No.: 10.0122US/PCT

Serial No.: Art Unit:

Filed: Examiner:

For: DISTRIBUTED OPTICAL FIBRE MEASUREMENTS

**Mail Stop PCT**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

**CERTIFICATE OF MAILING**

I hereby certify that the attached patent application, consisting of :

- Transmittal Letter (1 page),
- Fee Calculation Sheet (2 pages in triplicate),
- Copy of the International Application as filed with Formal Drawings (54 pages total),
- Declaration of Inventor Hartog (4 pages),
- Recordation Form Cover Sheet – Patents Only with executed Assignment (4 pages), and
- Power of Attorney (1 page),

are being deposited with the United States Postal Service as Express Mail No. EV 335955085 US in an envelope addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Rhonda J. Smith  
Rhonda J. Smith

October 21, 2005  
Date

Rhonda J. Smith  
Schlumberger Technology Corporation  
14910 Airline Road  
Rosharon, Texas 77583-1590  
(281) 285-5381  
(281) 285-5537 Fax